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Successful pregnancy following gamete intrafallopian transfer in a patient with a transverse vaginal septum : case report

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Abstract

Transverse vaginal septa (TVSs) are rare congenital, obstructive vaginal anomalies resulting from a defect of vertical fusion during embryogenesis of the vagina and are generally diagnosed at the time of pregnancy in association with obstetric complications. TVSs also contribute to infertility. Surgical treatment, such as resection or fenestration of the TVS, is generally indicated. However, the optimal treatment of infertile patients with TVS has not been established, and few cases of conception following clinical management have been reported. We report the first case of a successful pregnancy in a patient with a perforate TVS in the lower one-third of the vagina following gamete intrafallopian transfer (GIFT). She presented at 30 years of age for the evaluation of primary infertility. The TVS was located in the vaginal canal ending at a depth of approximately 3 cm, with a single opening, 1-2 mm in diameter, observed at the end of the vaginal cavity. The TVS was considered to be an etiologic factor for infertility. Our patient achieved a pregnancy via GIFT and gave birth to healthy twins by cesarean section. Laparoscopic GIFT is a useful procedure for infertile women with TVS.

Key words : Transverse vaginal septum, gamete intrafallopian transfer, primary infertility, laparoscopy

Introduction

Transverse vaginal septa (TVSs) are rare congenital, obstructive vaginal anomalies resulting from a defect in vertical fusion during embryogenesis of the vagina. TVSs are usually located in the upper one-third of the vagina. The estimated incidence of TVSs is 1 per 21,000-84,000 women.[1–6] The clinical symptoms of TVS vary. In women with an imperforate TVS, the TVS is often detected during evaluation for primary amenorrhea, a lower abdominal mass, cyclic abdominal pain, and hematometra/hematocolpos. In women with a perforate TVS, the TVS is often detected during evaluation of hypomenorrhea, dysmenorrhea, and disorders of sexual intercourse. TVSs also contribute to infertility.[1–6] Surgical treatment, including resection or fenestration of the TVS, is generally indicated. However, the optimal treatment for an infertile patient with a TVS has not been established, and only four successful cases of conception following clinical management have been reported in the English literature.[7–10] We report the first case of successful pregnancy in a patient with a TVS, following gamete intrafallopian transfer (GIFT).

Case Report

The patient was a 30-year-old married woman who had reached menarche at the age of 16 years

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and had a regular 28 day menstrual cycle without dysmenorrhea. She sought evaluation in our department for investigation of primary infertility of 2 years'duration. A speculum examination revealed a vaginal canal ending at a depth of about 3 cm, with a single opening, 1-2 mm in diameter, observed at the end of the vaginal cavity. Magnetic resonance imaging revealed the presence of a divided vaginal space and a normal-sized uterus and ovaries (Figure 1). She was diagnosed with a TVS. Because the endocrine function was normal and examination of her husband's semen was also considered normal according to the World Health Organization criteria, we proposed vaginal surgery to remove the TVS and treat the infertility. Thus, a diagnostic laparoscopy was recommended to determine whether or not there was an associated malformation of the uterus or ovaries ; however, she rejected surgical reconstruction of the TVS because an acquaintance suffered from a vesicovaginal fistula following vaginal surgery for a TVS at another institution, and she and her husband had no complaints of sexual dysfunction. We then proposed the following treatment options : 1) injection of semen into the separated upper vaginal space through the vaginal perforation ; or 2) performing GIFT together with a diagnostic laparoscopy. The patient decided to undergo GIFT, with the understanding that a cesarean delivery would be required if she conceived. The diagnostic laparoscopy revealed that her uterus, both ovaries, and both fallopian tubes were normal. Three inseminated oocytes were transferred into the fallopian tubes (two on the right and one on the left) by cannulation of the tubes during laparoscopy. She achieved a successful pregnancy following the first GIFT procedure, and went on to delivered healthy twins (a 2394 g boy and a 2250 g girl) by cesarean section in the 37th week of gestation.

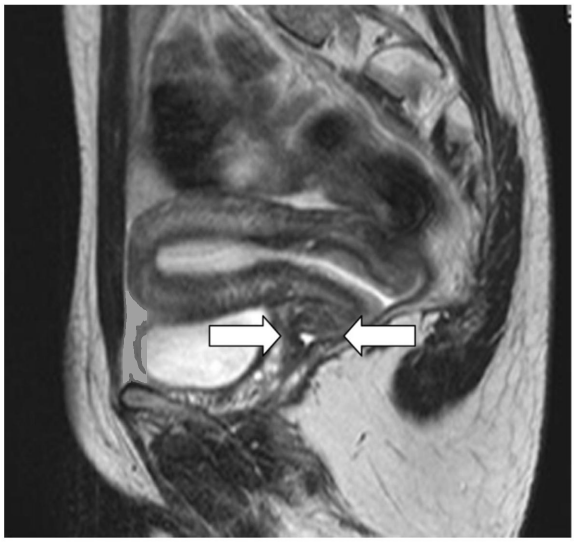

Fig. 1 Magnetic resonance imaging findings of the patient. Magnetic resonance imaging revealed the presence of a divided vaginal space and a normal-sized uterus and ovaries (arrows).

Discussion

TVSs are usually located in the upper one-third of the vagina, but the location and thickness of TVSs are variable.[12,13] Therefore, the degree of sexual intercourse dysfunction will also vary because the length of the vaginal cavity depends on the location of the TVS and such complaints are not objective. The patient described herein did not have any complaints associated with sexual intercourse, rather primary infertility. Generally, patients who have congenital genital anomalies accepted their fate of neither becoming pregnant nor getting married. GIFT has been performed as an assisted reproductive technique for treatment-resistant infertility. However, surgical treatment has been considered for TVSs when patients have complaints of infertility[5,7-11] because the patients require cesarean deliveries. Therefore, treatment for TVSs is limited if the patient declines surgical restoration of the vaginal septum. Moreover, surgical treatment includes several clinical problems, such as re-obstruction and, stenosis by scar formation. GIFT does not completely address the problem of a TVS ; we consider GIFT to be a significant form of treatment in patients with TVSs, in that it permits the patient to acquire confidence due to successful completion of pregnancy. The patient we have described is now considering surgical removal of the TVS in order to achieve spontaneous pregnancy after her successful pregnancy using GIFT. Although cesarean delivery is required, we conclude that GIFT should be considered a treatment option for patients with a TVS.

References

1. Shanks HG (1956) Pregnancy in a bicornuate uterus complicated by the presence of a transverse vaginal septum. J Obstet Gyneecol Br Emp 63 : 430-431
2. Levin N, Layzequilla N (1963) Transverse vaginal

septum-a rare cause of dystocia of labor. Report of a case. Obstet Gynecol 22 : 237-239
3. Fritz EB, Carlan SJ, Greenbaum L (2002) Pregnancy and transvaginal septation. J Matern Fetal Neonatal Med 11 : 414-416
4. Blanton EN, Rouse DJ (2003) Trial of labor in women with transverse vaginal septum. Obstet Gynecol 101 : 1110-1112
5. Gibson ED (2003) Transverse upper vaginal septum presenting in pregnancy : a case report and view of the literature. Aust N Z J Obstet Gynaecol 43 : 381-383
6. Srinath N, Misra DN (2007) Pregnancy in an untreated case of transverse vaginal septum with vesicovaginal fistula. Int Urogynecol J Pelvic Floor Dysfunct 18 : 583-585
7. Rock JA, Zacur HA, Dlugi AM, Jones HW Jr, TeLinde RW (1982) Pregnency success following surgical correction of imperforate hymen and complete transverse vaginal septum. Obstet Gynecol 59 : 448-451
8. Levy G, Warren M, Maidman J (1997) Transverse vaginal septum : case report and review of the literature. Int Urogynecol J Pelvic Floor Dysfunct 8 : 173-176
9. Koyama N, Hasuda K, Hayashi A, Hasuda T (2007) Pregnancy achieved following IVF-ET after surgery for infertility with perforate transverse vaginal septum and imcomplete separate uterus : case report. Clin Exp Obstet Gynecol 34 : 259-262
10. Cetinkaya K, Kumtepe Y (2008) Perforated transverse vaginal septum : a rare case of mullerian duct anomaly presenting only primary infertility. Fertil Steril 90 : 11-13
11. Wierrani F, Bodner K, Spangler B, Grunberger W(2003) "Z"-plasty of the transverse vaginal septum using Garcia's procedure and the Grünberger modification. Fertil Steril 79 : 608-612
12. Spence JE (1998) Vaginal and uterine anomalies in the pediatric and adolescent patient. J Pediatr Adolesc Gynecol 11 : 3-11
13. Edmonds DK(2001) Vaginal and uterine anomalies in the paediatric and adolescent patient. Curr Opin Obstet Gynecol 13 : 463-467